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"Salvation of India lies in Cottages."

—*MAHATMA GANDHI*

SANT VINOBA'S SERMON AT POHRI

DURING the course of his Pad Yatra in Madhya Pradesh Sant Vinoba Bhave made a halt at Pohri on the 17th of June 1960. He made two public speeches there —one immediately after his arrival and the other at evening prayer. The evening speech was devoted to the illucidation of his views about Gram Swarajya.

Gram Swarajya

Sant Vinoba deprecated the growing tendency of the people to look for everything to the Government. He referred to a news he had read that afternoon in a local paper that a particular Government had warned its employees to take proper care of their dependents at home, otherwise the Government would be obliged to take steps against them. He said, "If the news is correct, that shows the height of our slavery and our dependence on the Government. If such is the case, God help us! It is a very serious matter which must receive serious attention of every thinking person. If we depend upon the Government even in our domestic affairs, we are doomed."

Explaining his ideas of Gram Swarajya Acharya Vinoba Bhave said that majority of Indian population lives in villages. The villages produce food, milk, ghee and all the agricultural crops required by the nation. They feed the nation. Therefore, the nation rises or falls with the rise or fall of the villages. If the village people grow physically, mentally or otherwise, it will result in increased and better production and the nation as a whole will be benefited. 'But what do we find?' asked Vinobaji.

Vinobaji gave a vivid picture of the deplorable condition of the villages and said that the villages are being weakened both physically and mentally today. The labourer in the village does not get full employment all the year round. He therefore runs to the city to work in some factory. The village is thus deprived of the labour force which could be used to increase production. Similarly when any body happens to get higher education, he too deserts the village and goes over to the city in search of employment. The villages are thus drained of both physical and intellectual force. What is left is the weak residue of children, women and old men. How are the villages to prosper under these conditions and how can the Nation expect better and increased production?

Sant Vinoba further said that all the raw materials of the villages are purchased by the cities and returned to them in the form of finished products. This takes away their opportunities for work which processing of products would have provided. The village people are thus left over to overcrowd agriculture, making it still more uneconomic. As a matter of fact, cities should produce what is imported from foreign countries and not what could be produced in villages. That will save the country from foreign exploitation and enrich the villages. Today foreign

countries weaken the cities and cities weaken the villages.

Shri Vinobaji then referred to the exploitation of women by men. He said, men have snatched the work of women in many fields. Sewing which could have been the exclusive reserve of women, is being done by men today. Even cooking is done by men in cities. Many such other works of men are now passing from the hands of women to the hands of men. This is nothing short of exploitation of women by men. It has led to the dependence of women on men. If all get opportunities of work, all will grow and the nation will grow strong. It has to be so planned that separate work is allotted to women, villages, and cities. But the question is, who will do it ?

Shri Vinobaji here described the deplorable condition to which we have fallen. Before Independence, people worked even against heavy odds placed by the foreign rule. But since the attainment of independence, there has been a growing tendency among the people to lean for everything on the Government. The situation has been further accentuated by the wrong and fallacious propaganda of the political parties who go to the people and say "Give us vote and we will do everything for you". This has crippled the people like anything. It has killed their initiative and made them dependent for everything on the Government. Baba (Shri Vinobaji) is now moving from one end of the country to the other to counteract this mentality and awaken Lok-Shakti.

He carries the message :—

That the people should stand on their own legs ; that the village people should themselves shoulder the responsibility of carrying on all the affairs of the village ; that the villages must become self-sufficient in the supply of their primary requirements of food, cloth, shelter, education, medical facilities etc ; that they must live like one family sharing the fruits of each other's labour as well as sorrows and happiness ; that the village must provide work to each and every able bodied person according to his or her capacity and each must contribute to the common welfare of the village ; and that they must all strive to bring about Gram Swarajya.

If Gram Swarajya is not attained, Vinobaji said, our freedom is in peril. Gram Swarajya would serve as a second line of defence in case of foreign invasion.

Shri Vinobaji ended his speech by saying that those who are educated should devote their lives in the uplift of the villages. That way the country will be strengthened and prosperity will follow.

In his morning speech Shri Vinobaji referred to the shocking ignorance of the people in villages and the need to create consciousness among them. He said, "Hindu Religion has divided the entire life of a man into 4 Ashrams. During Banprastha Ashram, a person is expected to detach himself from his family obligations and dedicate himself to the service of the community. Therefore those who have passed the stage of Grahastha Ashram should come out and dedicate themselves to the spread of Sarvodaya Ideology.

There are probably no two opinions about the fact that there is tremendous ignorance in our country. The political parties are taking ill advantage of it. They are creating a gulf between brother and brother and a wave of animosity, partisanship and ill feeling is overtaking the villages which were free in the past. Probably in our past history, there was never a worse period when national morals had fallen to such depths as at present. Whether in private or in public life, corrupt practices are rampant everywhere.

Moral codes are observed more by breach than by adherence. From lowest to the highest, personal or party gains overweigh any other consideration of morality. Therefore to counteract the evil

influences and to create a healthy atmosphere, we too feel, as we expressed to Shri Ramchandra Billore accompanying Shri Vinobaji, during his visit to us, that quite a large number of persons like Shri Vinobaji must always be on their heels touring the country from one end to the other and spreading the message of love, justice, truth, right conduct and morality over personal profit. It will help the country restore from the depths to which it has fallen.

As we read our recent past history, we see an ascending order of great men appearing on the scene and delivering the goods. But now we are posed a question without reply "What after Nehru?" That points the direction we are moving to. It is therefore our considered view that a race of supermen must appear in the country if its problems are to be solved.

Finally, we have arrived at the conclusion that under present conditions, democracy cannot function and be a success in India. The best substitute for it is what Lord Krishna says in Bhagwat Gita, " नराणां च नराधिप: ".

GLIMPSES OF COMMUNITY DEVELOPMENT-VILLAGES

By : PROF. C. L. KHANA

WITH " Man as the destination" India launched upon a new and mighty venture of reviving the village communities rendered decadent through 200 years of colonial rule by the Britishers. A network of community development projects —people's programmes with Government participation—was laid. An important question that has posed itself since then is : what has been the impact of such projects on the village economy and the social fabric of the village life ? Much ink has been spilt and much breath lost by the champions and critics in arguing out their cases for and against the proposition.

With a view to making a first-hand assessment of the achievements and failures of the rural re-construction activities I, accompanied by a band of 20 students of the Planning Forum of the D. A. V. College (Lahore), Ambala City, embarked upon a 12-day hurricane tour of some of the selected village community development and other projects in the Punjab and Delhi State. We visited 13 villages and travelled 1500 kilometers by rail, road and on foot.

It was an exhilarating experience for us, the town-dwellers, to walk down the deep dusty ruts of the beaten tracks or kacha roads in the villages braving the hot sun and the day-long " loo " (hot-breeze), talking to the ill-clad rural folkmen, women and children. At times, we required an interpreter to understand precisely the dialect of the villagers.

The inclemencies of the weather and the inconvenience of our journeys to and from villages were more than compensated by the beaming faces of the villagers we came in contact with. There were visible signs of a rich life that the community development projects had brought in its wake to the villagers. Each villager shared a spirit of pride and jubilation over his achievement as he

related them to us. Quite often the Village Level Worker—their friend, philosopher and guide—is deified by the villagers.

Social Apartheid

In the Panjore Block covering 492 villages, mostly in submountainous region, with a population of 38,000, the water supply scheme has been undertaken in order to provide adequate drinking water to the villagers. Through this scheme only 27 villages, having population of about 2,000 will derive the benefit on the completion of the scheme whose last phase is proposed to be taken up in July, 1960. These villages will no longer share with their cattle, as heretofore, the contaminated, stagnant and stinking water of the village pond. The hygienically clean and crystal clear water piped to the village affords them an experience of the "glow of freedom" won by our countrymen through 80 years of sacrifices and sufferings.

Notwithstanding all this, the Rampur village still sticks to the old grooves. The Harijan families are segregated from the high castes and are not allowed to use the village wells for procuring drinking water. The "untouchables" have to fetch water from long distances. Poverty and economic depression, apart from the social and caste discriminations, are thus writ large on them. It is a social stigma that we have failed to efface even after ten years of the constitutional provisions for its removal.

The community development authorities do not appear to have cut much ice in this direction. Is this social evil attributable to certain inherent and deep-rooted weaknesses of our society? It is true that among the rural folk we find the social diehards and if they have lived and practised apartheid most of their lives, no legislative measures or communal persuasion can bring about a rapid social transformation. 'Purdah' system among the women is yet another evil rampant in most of the villages. It requires an alchemist to play the trick. But where is one to be found?

The result of this unwarranted and anti-social discrimination is that even the economic benefits are unequally distributed. The Government grants and loans of whatever magnitude that might be are allocated not according to the needs of the various communities but according to their bargaining power. The untouchables and others with weak bargaining capacities are doled out meagre sums to implement their developmental schemes. *Consequently, the dangers are that instead of bridging up the social and economic inequalities they are ever widening. The creation of classless and casteless society will remain an unmaterialized dream. Thus, untouchability based on casteism will be a big question-mark baffling all solution.*

Does that mean that nothing has been done for the uplift of the down-trodden Harijans? In refreshing contrast to the apartheid practised in certain villages, the Kharar Block has raised a new Harijan Colony. About a dozen brick-built two-roomed quarters on the outskirts of village *Daon* provide sanitary living conditions to the Harijan families of that locality. Though an isolated instance, it paves the way for the amelioration of the Harijans. Of course, much more is needed and we must do that in a spirit of revolution for "no social change of any magnitude has ever come about gradually".

Economic Front

In the Kharar Block were visited the Khanpur Garden Colony and Model Agricultural Farm, Singhpura model village, Desu Majra, Daon, Jandpur and Chandon Gobind Garh villages. Provision of pucca streets, hygienic living condi-

tions, schools for children, increase in agricultural production, irrigational facilities by tube-wells are some of the highlights of rural development in this block. The Chandon Gobind Garh village is the "Pride of the Punjab" and has been filmed by the B.B.C., London, for television for the British Children. It has got a multi-purpose 3 roomed building combining a primary school, a primary health sub-Centre and a Panchayat hall and a children park in front. The Kharar Block has the unique distinction of having as many as 12 such multi-purpose modern-styled buildings lending a new look and glamour to the otherwise desultry and unattractive village surroundings.

The multi-purpose building in village "Chandon", whose foundation stone was laid about two years ago, will be ready for use by June, 1960. When asked the reason for slow construction of this Rs. 12,000 structure, we were told that it was due to the non-availability of iron and cement. It was alleged that the Government officials practised corruption which led to delay.

This village lately embarked upon afforestation scheme with a view to arresting the soil erosion and influx in the "cho" (rain-torrents) in its neighbourhood. The reclaimed land yields to the village panchayat an annual income of Rs. 1,000.

The village is meticulously clean. Every household has a smokeless chimney. Ninety percent of the population is covered by the cooperative societies. It was claimed that during the last 6 years of the inception of the block not a single case had gone beyond the village panchayat. The panchayat had not even to register any disputes; they were settled amicably. A fine spirit of 'esprit de corps'.

Our visit to village Jand revealed that there was no perspective planning of pavements. The street pavements have given rise to other and quite serious problems of draining water which now pollutes the pond water used by the cattle and breeds mosquitoes.

Singhpura model village is a historic achievement of the Kharar block. In it have been provided a middle school, a primary health centre, a good reading-room-cum-library, a panchayat hall and a guest house. It is a lovely place providing the town amenities and the villagers' composure. Every household is a "factory in miniature". Cotton weaving is the staple cottage industry, besides land cultivation. Inhabited as it is by the 60 military families (2/3 of the entire lot) the village has a good nucleus of hard-working people. The Goodwill Mission of Russia appreciated the self-help and mutual help of the village. But we could not fail to notice some of the show-pieces in the village. Sign-boards bearing high-sounding maxims, e. g. "Sarvodaya is our goal and ideal", were enigmas to the villagers. With all that this village, like many others visited by us, does not have the "luxury" of electricity for consumption or productive purposes.

Nilokheri block has visible signs of rural orientation as evidenced by the developments in Butana, Pujam and Bhaini Khurd villages. Paddy cultivation is the staple occupation. The productivity per acre has been stepped up from 8 maunds to the average of 30 maunds (in certain cases even 50 maunds) which works out to 275 percent increase.

How the community development programmes are "people's programmes with Government participation "and NOT" Government programmes with people's participation" is amply demonstrated by the astronomical figures of contributions made by the villagers vis-a-vis the Government. In village Pujam to take only a single instance, the ratio

of the Government contribution and the total Public contribution is 1 : 30. The accomplishment appears still more staggering, considering the fact that in the joint Panchayat of Pujam and other neighbouring villages, the former has only one member in the Panchayat. Thanks to the efforts of S. Sher Singh, the village Jagirdar, this village has been adjudged as the best in the block competition held this year (1959-60).

Another feather in the cap of this village is added by one of the school children who won a prize in the International Arts and Crafts children Competition sponsored by the "Shanker Weekly" last year. The toys produced by the children in the primary school are superb indexes of their mental creativeness.

In Ajronda village (Faridabad block) a farmer is able to raise three crops a year where he raised only one before. Potato-growing is his speciality and the majority of peasants have 18 to 20-acre holdings. On his own admission a cultivator is able to raise Rs. 40,000 worth of crops during a year. Similarly in Desu Majra in the Kharar block, the aggregate money-yield of the potato crops in 1959 was Rs. 1.5 lakhs, which was more than double that of the previous years. Ajronda village has a 220-yard metalled link-road between the village and the main Delhi-Gurgaon road. It has 18 pumping sets for irrigational purposes, one big cold storage, a co-operative joint farming society and a Co-operative "Gota" Manufacturing Society.

Being nearer Faridabad Township, vegetable cultivation is an added attraction. The same is the case with Desu Majra and *Daon* villages which lie at a distance of a few miles from Chandigarh.

Key village centres have been set up notably in Pujam village in order to provide artificial insemination facilities for producing better cattle breeds and to save the cattle from foot-and-mouth diseases foot-baths have been provided. But such measures for better animal husbandry are not very common. More emphasis is called for in this respect, especially when mechanisation is not making much headway even in well-developed villages.

Whether co-perative joint farming has made any progress has been our constant concern. This institutional change has had a mixed reception like all innovations. In a few villages joint farming societies have actually come into operation but it is said to be only a "family" affair". In others the formation of such societies is in a period of gestation. The setting up of service co-operatives is going apace. On the whole we found that there was no opposition to the new concept of joint cultivation. We sanguinely feel that if the community development personnel sincerely and tactfully handles the transformation, the pace of institutional reforms could be quickened.

In not a single case did we find a co-operative marketing society. State Trading is, however, welcomed by the enlightened farmers.

Cottage Industries

We did not come across many cottage industries, the proverbial second strings to the bows of the farmers. In our opinion this is a serious lacuna in the developing village economy. Co-operative societies, however small in number, have helped in the economic accomplishments. But they have failed to bring about cohesion and unity to the rural life. Measured in these terms, the critics might characterise the community development movement as a dismal failure.

We were surprised to note that while the Government aimed at inculcating the spirit of co-operation in all phases of

rural life, the personnel charged with this onerous responsibility exhibits little or no spirit of co-operation and coordination. The Block Development Officer is essentially a liaison agency. It is distressing that he is not given timely co-operation and is required, on the other hand, by the District and State authorities to shoulder the entire work of planning and implementing the schemes.

The community development schemes are erroneously identified with individuals (e. g. village level workers and others) by the villagers. The latter are unaware of what "Yojana" signifies. We are led to believe that these community schemes have not yet assumed the role of a "movement" and have failed to "activize" the Man.

However the criticism that the community development is a "misconceived and ill-conceived concept" is only a betrayal of ignorance of the critics. On the basis of the information gained through our travels we believe that these schemes are well-conceived and profitably implemented. Given the right type of personnel imbued with crusader's zeal to foster community life among the villages, the war on the five giants (—) death, disease, squalor, ignorance and idleness (—) can be successfully waged.

It has been found during the course of our meeting with the villagers and officials that not long after the appointment the officials lose their first flush of enthusiasm for work in the rural areas. In order to keep up their spirits, the Government must evolve effective measures besides the orientation courses devised by it. If this were done, light will dawn where darkness reigned supreme before the development projects were initiated eight years ago.

"LAND UTILISATION AND MANAGEMENT IN RELATION TO AGRICULTURAL PLANNING"

By: A. N. RAJAMANI

Importance of the Study

The Indian economy in its present phase of economic development experiences shortages of food, industrial raw materials and foreign exchange. In this context, any rational utilisation of land should seek to eliminate these shortages. The shortages themselves are the result of several factors. On the demand side the rate of population growth during the 1950's seems to have increased since the previous decades quite considerably. Investment activity in the public as well as the private sector of the economy during the two Five Year Plans has generated considerable additional money income. The income elasticity of demand for food is estimated to be quite high. A quantitative as well as a qualitative increase in food demand has been obvious. The demands of planned industrialsation are putting pressures on supplies of raw materials such as jute and cotton. To earn foreign exchange for importing capital goods as well as some consumer goods, India will have to depend mainly on her exports of selected agricultural products for years to come. This has been accepted by many committees appointed by the Government and by leading economists of the country. The prime need of the hour is augmentation

of the production of foodgrains and commercial crops to meet the rapidly growing demands.

Now, the supply of agricultural commodities depends upon the available land and its productivity. But land is a scarce factor, even though in the short run cultivable wastes and land hitherto unutilised can be pressed into service. Scientific planning is a pre-requisite for a proper distribution of the available land among diverse competing ends, and such planning must begin by examining carefully the existing pattern of land utilisation and the changes that might have occurred therein in the recent past.

Analysis of the Subject

Now, the subject of 'Land Utilisation and Management in relation to Agricultural Planning' could be broken into three parts for convenience of a detailed analysis as follows: (i) Land Utilisation; (ii) Land Management; and (iii) Agricultural Planning. We can examine the type of programme needed to evaluate each of these three parts.

Land Utilisation

The various aspects of it to be studied are:

(a) Changing pattern of land between two points of time in a country: (i) area under forests—private and public; (ii) lands not available for cultivation such as roads, building sites, canals, tanks, parks, mining, quarrying and some land not available owing to physical conditions or chemical properties of the soil; (iii) current fallows—cultivable wastes; and (iv) any increase or decrease in net area sown which could be traced to any decrease or increase in (i), (ii), and (iii) stated above. Also the net area shown under one crop can be related to net area sown under any or all other crops.

(b) Although some lands have specific use, major portion of the cultivated area may be on the margin and be switched over from one crop to another. This is brought about either by seasonal factor or by prices. Assuming that the effects of adverse seasonal factor and bottlenecks in transportation remain the same in the case of all crops, the only other important factor affecting land uses is price. Hence, the price level of a number of crops over a series of years has to be studied against the context of the acreages under the respective crops during the same period. Actually, in a study made of the effect of price on land use in conjunction with the effects of seasonal factor in Madras State between 1941 and 1945, it was observed that the effect of seasonal factor was more pronounced in the short-term and that of prices in the long-term.

(c) Another problem is of the competition between industrial and agricultural uses for land in all countries aiming at industrialisation. Unplanned growth of industries in urban areas sometimes cuts into the vitals of agricultural tracts. In mature industrial nations, special precautions are taken to prohibit new cities, satellite towns, and suburbs from rising on agricultural land. In larger cities, town planning is specially directed to build up semi-urban homes surrounded by patches of land.

(d) Better land use, therefore, by definition involves soil conservation. Education can help here. Research findings of past land use can be profitably employed, with a better and wider spread than done at present. Some farmers may need information on additional enterprises such as live-stock that go along with conservation measures. Community plans will be needed in such cases. Plans for individual farms too will help in many cases.

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FUTURE ROLE AND FINANCIAL ASPECT OF PANCHAYATS

By: TIKAM CHAND MEHTA

PANCHAYATS have been an age-long institution in India and survived up to the present day through many vicissitudes. The resolution of the Government of India 1918 attached importance to the village panchayats by defining them as "Associations designed to develop village corporate life on the basis of intimacy existing between the inhabitants who had not only common civic interests but are also kept together by ties of tradition and blood." That is why their has been a countrywide recognition of village panchayats. They have found expression in the constitution of the country where fostering the village panchayats is included as one of the directive principles of State policy. Article forty of the constitution provides, "the state shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self Government."

Accordingly every State in India passed necessary legislation for the administration of panchayats and large number of these institutions have been established in all the States. In Rajasthan the number has already crossed three thousand five hundred.

Rajasthan has made headway in the sphere of Democratic Decentralisation. This scheme has been introduced on 2nd Oct, '59. In total 232 panchayat samities and 26 zila parishads have been formed, the Grampanchayat being the basic unit of the three tiered democratic structure set up in the State. Though it can never be denied that a Grampanchayat is the basic unit and its discretion in Planning and the development of its financial resources cannot usually be questioned by the panchayat samiti or any other higher administrative unit, but a panchayat must realise that the advantage of combined wisdom of the members of Panchayat Samities has to be taken, and hence Panchayats should accept their advice if and when tendered.

This is also necessary because Panchayat Samiti is Democratically higher body than the Panchayat with more resources at her disposal. Therefore, while retaining its independent status as the basic unit, it is desirable for Gram Panchayat to generally abide by the advice of the Panchayat Samiti in all respects.

Coming to its functional aspect, Panchayat at the village level is going to be the basic institution for Planning and executing the development programme. Panchayats have a long list of obligatory functions to perform. They are as follows :—

1. Supply of water for the Domestic use.

2. Cleaning of public roads, drains, bunds, tanks, wells etc.

3. Construction, maintenance and repair of public roads, drains, bunds, tanks, wells etc.

4. Sanitation and conservency.

5. Preventation and improvement of public health.

6. Maintenance and regulation of the use of public buildings, grazing land, forest land, tanks, wells etc.

7. Light.

8. Provision, maintenance and regulation of burial and burning grounds.

9. Medical relief and first aid.

10. Regulation of Births and Deaths and Collection of other statistics.

Other functions which may be classed as discriminatory are such as construction and maintenance of Public latrines, markets, slaughter houses, playgrounds, public parks and gardens; planting trees, Village libraries, reading rooms, control of fares and village Industries.

Finances :—

To get sufficient finances, in order to perform heavily assigned functions, village Panchayats have been empowered with wide taxing powers. Persons, property and business come under the perview of its jurisdiction. Important taxes which can be levied are as follows:-

1. General Property Tax.
2. Service Tax.
3. Surcharge on land Revenue.
4. Taxes of Trade, profession and calling.
5. Taxes on Animals and Vehicles.
6. Taxes on fares and festivals.

Thus on principle they have got quite a comprehensive list of taxes. Further Panchayats can levy tax on any of the items which is in State list with the prior sanction of the State Government concerned.

Crux of the problem

Though Panchayats are very old institutions, in the present form they are new and not well developed. They hesitate to levy more taxes lest it should make them unpopular with the people of the Village, they are more inclined to get aids.

Something has been observed by the Local Finance Enquiry Committee and it has recommended only two common taxes viz House or Choulah tax and General sanitation tax for all the Panchayats. Recently Taxation Enquiry Commission has also suggested that Panchayats should not levy so many taxes. Commission has suggested only four common taxes :—

1. General Property Tax.
2. Services Tax.
3. Land Cess and
4. Duty on transfer of property.

Hence with the above discussion it is clear that though the Panchayats have to perform multifarious functions in this age of planning, they are not in a position to get enough finances by themselves. In order to make them more usefull for the society more emphasis should be given to external assistance. This may take effect in the following ways :—

1. States should give 15% share of net land Revenue collected from particular area.
2. A portion of pay of the officers, should be met by State Governments.
3. Liberal grants should be made for certain specific purposes.
4. Performing such functions which are productive viz running a flour mill, Revenue from roadside trees, income from tanks and rivers etc.

If we really want to make the Punchayats basis of Democracy, it is necessary to give them an initial chance to establish themselves as useful. Though they are given wide taxing powers they are not in a position to take initiative. Without State assistance they usually start their career either by earning resentment and unpopularity or where they do not tax by earning contempt through inactivity. So they should not be compelled to tax immediately but should be financed from other sources atleast for the initial period of few years.

FARM PLANNING AND BUDGETING

By: S. C. BIRLA

FARMING in India is fast changing its character from subsistence to business. The farmer is today more concerned than ever with the principles of farm management, viz., changes in the price of crops he produces and the input factors utilized by him in farming. Farm management consists of two principal phases, i. e., farm organization and farm operation. The purpose of the farm organization and operation is to secure the maximum continuous net product from the resources owned by the farm family. The technique of farm planning and budgeting with which we are concerned today are those relating to farm organization.

Farm planning is the process of determining such factors as what crops to grow, in what quantity and in what order; the number of animals required and their proper management, buildings, equipment, labour and power will be required and so forth. The precision of plans depends mostly on the accuracy and precision of the basic data such as estimates of crop yields, dates for performing specific operation and feed requirements and production levels of particular animals, which can be expected after the plan is put into effect.

Farm budgeting is generally thought of as the process of estimating farm inputs, outputs and net earnings. All of these are commonly expressed in monetary terms. A budget is to evaluate a plan and a plan is the basis of a budget. Thus, it is possible to have a plan without a budget but not a budget without a plan. It has been rightly claimed that Budgeting is an indispensable feature of Farm Planning. Its uses and benefits are manifold. Woven into the agricultural development and extension programme, it can be of vital service. Budgeting can be of two types, viz., 'Total farm budgeting' and 'Partial farm budgeting'. Total farm budgeting relates to attempts to estimate income and expenses of the farm organization as a whole; while, Partial Farm Budgeting relates to attempts to estimate income and expenses for a single farm enterprise such as wheat or poultry or dairy. It may also relate to treatment of any part of a total farm plan, such as, a plan for a single resource such as a labour, irrigation, water or fertilizers.

First step in Farm Planning and Budgeting after selecting the cultivators is to take down the inventory of the selected cultivators. After it has been completed, the cropping scheme of the farmer which he had intended to put into operation during the period is to be taken along with the information about irrigation, expected production and its value for each crop. The structural and operational weaknesses in the present plan are to be recorded in detail so as to form the basis for working out the alternative plan.

The structural weaknesses refer to ill-adjustment in resources, e. g., inadequate or excessive human or bullock power, inadequate capital and irrigation etc., while operational weaknesses are use of unimproved seeds, faulty cultural methods, insufficient use of manure and fertilizers and the cropping programmes not well adjusted to farm resources. Now the alternative crop programme is to be given up.

The production for each of the crops is to be estimated on the basis of experi-

mental data or available experience of the farms in the neighbourhood. Details of the improvements under the alternative plan for raising each crop from sowing to harvesting are to be recorded along with the type of materials to be used, expected additional expenditure and expected additional returns to accrue from each of these improvements. Ordinarily, plans should attempt to utilize all fixed resources as fully as possible and minimise the use of substitutable variable resources as long as any of the fixed resource during the same period remains unused.

Farm Planning technique has a well understood role in organising the programmes designed to put farm resources to the most profitable use. Pilot studies in this sphere have revealed great potentialities of the technique for increasing agricultural production in this country. In U. P. an investigation was conducted in the Agricultural Economics Section at Government Agricultural College, Kanpur on 24 cultivators' holdings on farm planning and budgeting in two villages in district Kanpur from June 1954 to July 1956. As a result of these investigations on farm planning, the percentage increase in the value of gross produce, net return and return to capital investment, family labour and management show an inrease of 24 to 30, 29 to 38 and 17 to 24 per cent respectively. The results of the experiments on farm planning in other states are also encouraging.

Production increased through improved management may come slowly but the results can be substantial and long lasting.

SUPER COMPOST--A GOOD ANSWER TO FOOD PROBLEM

By: A. K. B. CAZI

Super compost and its fertilising value

1. SUPER Compost is compost reinforced with superphosphate. The advantages of reinforcing compost with superphosphate are :-

(i) Plant nutrients in Compost are brought into better balance.

(ii) Plant nutrients including the added phosphates are made better available to plants.

(iii) Nitrogen status of the soil is increased.

(iv) Humus content and physical properties of soil improved.

Plant nutrients are brought into better balance

2. Bulky manures as made on the farm are generally deficient in phosphoric acid (P_2O_5). The P_2O_5 content of farm manures is about one-half of the content of either nitrogen (N) or potash (K_2O) Very little is known about the actual fate of N and K_2O with insufficient quantity of P_2O_5 when applied to a crop. But in accordance with the "law of the minimum" discovered by Liebig J. V. in 1940 and is still unquestioned, if the availability of N & K_2O is taken as being limited to the contents of P_2O_5, it will mean that almost half the quantity of N and about similar quantity of K_2O contained in the farm manures is not available for absorption by plants. The excess of N must be lost either in the soil drainage or by denitrification since soil cannot hold nitrogen compounds for long; while some part of the excess of K_2O will

also leach out, a greater portion of the same will be fixed by the soil particles. When we take into account the total quantity of cattle shed manure and farm composts prepared and used in India which approximately amounts to 1600 lakhs of tons annually, the annual wastage of N and K_2O is indeed enormous.

Plant nutrients including added phosphates are made better available to plants.

3. Phosphates as found in nature are in a form which are not readily available to crops. In order to make them available to crops they are processed in a factory by being first subjected to fine crushing and then the fine powder thus obtained is treated with sulphuric acid. This manufactured product is called *superphosphate* which contains phosphoric acid (P_2O_5) in water soluble condition and therefore is readily absorbed by the plants when applied to the soil. However, the soluble P_2O_5 contained in superphosphate undergoes reversion if it comes in contact with soil particles containing aluminium and iron, and once converted into that form it will be difficult to recover it for plant use. Such reversion can be prevented if it is first made to get interlocked within the matrix of organic matter before it is applied to the soil. Then as the organic matter gets decomposed, the carbon dioxide evolved in the process of decomposition is turned into carbonic acid which dissolves and liberates this locked up P_2O_5 for plant use. This is one of the reasons why compost should be re-inforced with superphosphate.

Not only does the benificial action of added P_2O_5 become more effective when brought under the protective influence of organic matter, but the uptake of other nutrients like N and K_2O is also simultaneously increased since the function of the plant nutrients of each category viz: N, P_2O_5 and K_2O are co-ordinated and inter-dependent and their relative position in the extra yield is more or less as good and constant as it is in the total yield. Since much higher yields are obtained when compost re-inforced with superphosphate is applied than these two applied separately the benificial effect of super compost with regard to better utilisation of soil nutrients becomes apparent looking to the increase in crop yields. In certain respects this benificial effect even goes further because to a certain extent N, P_2O_5 and lime contents per 100 lbs. of plant produce also increases, thus upgrading its quality from the view point of human and animal nutrition.

Nitrogen status of soil increases

4. Another important gain that accrues from the application of super compost is the fixation of atmospheric nitrogen for the ultimate use of the crop by soil dwelling bacteria e.g. Azotobacter (aerobic) and Clostridium (anaerobic). Under the stimulating influence of available phosphate and exchangeable calcium, the number of nutrifying bacteria increase rapidly. Azotobacter and clostridium convert the atmospheric nitrogen into their cell plasm, whence it is released on death. These free-loving bacteria of the soil derive their energy from the organic matter present in the soil. Thus close association of organic matter and calcium phosphate exert favourable influence on the nitrogen fixing power of nitrifying bacteria. Rotted or partially rotted manure such as is found in compost is much superior to fresh organic matter for inducing quick growth of nitrifying bacteria. Of course in additon to the fixation of N by free-living soil bacteria as specified above, bacteria that live in symbiotic relation with plants, mostly leguminous crops, also contribute towards increasing

ultimately the nitrogen supply of the soil, and these too become more active under the influence of easily available phosphates but obtain their energy from the host plant.

Humus Content and physical properties of soil improved.

5. Root development is always more prolific where there is a close contact between N & P_2O_5 than where these two nutrients lie in the soil separated from each other. More prolific root development means more efficient tapping of nutrients from the soil, resulting in more rapid growth and development of crops. In fact root development is co-related to the ultimate yield of the crop. It also means that accumulation of large net work of roots consequent on their profuse growth, will further contribute towards maintaining the supply of organic matter in the soil, since these roots which will remain in the soil after the harvest of the crop will ultimately decay producing humus. Thus the application of Super Compost to the soil improves the structure and tilth of the soil and at the same time upgrades its productivity level.

Experimental Evidences

6. The results of the experiments and field trials conducted by various research workers on the use of Super Compost are given below :

(1) **Response of merva and berseem in pot tests**

Experiments conducted at Indian Agricultural Research Institute showed that higher yields of *merva* and *berseem* were obtained in pot tests by application of composted farm yard manure to which superphosphate had been added prior to composting than by application of equivalent amounts of superphosphate and manure composted without addition of superphosphate.

(2) **Response of tomatoes in pot tests**

Experimental results obtained in U.S.A. in pot experiments on different soils on yield of tomatoes by applying superphosphate and organic matter separately and the two together show that superphosphate in combination with organic matter was definitely more profitable. The quantities worked out per acre basis was as under :

(a) Manure at the rate of 10 tons per acre.

(b) Superphosphate containing 20 per cent P_2O_5 at the rate of 500 lbs. per acre (that is, 50 lbs. P_2O_5 per ton of organic matter.

The results obtained on five different type of soils summed together were as under:—

Materials applied separately	174.1 grams
Materials applied together	252.7 ,,
Increase in yield by applying together	78.6 grams.
Per-centage increase in yield by applying together	45%

(3) **Response of grasses in terms of nutritional value as shown by gain in live weight of cattle.**

150 lbs. of superphosphate containing 20% P_2O_5 was mixed with torn up sod of experimental pastures in Iowa U. S. A. The experimental results showed that whereas untreated plot gave 105 lbs. gain in terms of pounds of increase of weight of cattle per acre, the plot treated with lime, phosphated and seeded gave 155 lbs. giving almost 50% increase.

Thus when leys are dug up for reseeding, the organic materials ploughed in are benifitted by adding lime and phosphate because these minerals which are the components of superphosphate under the influence of organic matter

can fix atmospheric N and supply plant nutrients which produce more and better grasses and legumes.

(4) **Response of hay crop in terms of uptake of nitrogen.**

Another example of how soil of permanent grass land which contains good amount of decayed organic matter, becomes enriched in nitrogen by the application of P_2O_5 is furnished by the experimental results conducted by Rothamstead staff in different parts of Great Britain.

Superphosphate was applied once only in 1930-31 to hay crop and its residual effect on quantity and quality of hay was observed for four years viz : 1931 to 1934. Quality of hay was observed by finding out N as percentage of dry hay. From this and the total yields of hay it is possible to determine the quantities of extra nitrogen taken by the crop as compared to the crop which received no superphosphate.

The uptake of extra nitrogen by the crop per acre was as follows :—

Year		uptake of extra nitrogen per acre Lbs.
1931	....	31
1932	....	17
1933	....	12
1934	....	6

It should be realized that there is more or less some difference between the uptake of available nitrogen by the plants and the actual total nitrogen in the soil. The former is the net quantity actually utilised by the plant while the latter would represent gross available quantity present in the soil. Thus the nitrogen actually fixed by microbial agencies in the soil was obviously more than what was represented by the quantity actually taken up by the crop.

The benificial effect of any plant nutrient is more in soils lacking in that nutrient. On the other hand, response per lb. of the nutrient is more on higher productive land than on lower productive land. The grassland to which super phosphate is added or any field crop to which supercompost is added undoubtedly becomes more productive due to increased content of humus. In this particular case taking the response of 1931 as equally applying to each succeeding year and adding also the residual effect if superphosphate is applied to each year, the increase in the uptake of nitrogen would be about twice the increase of 1931 in the 3rd or 4th year as graphically represented on the opposite page.

(5) **Increase in Nitrogen status of soil and Response of Corn**

Kararker working in U.S.A. has shown that as a result of application of manure and phosphate 13% increase was obtained in the nitrogen status level of the soil and 42% increase in corn yield.

(6) **Response of Paddy**

In a trial conducted on the field of a cultivator in Kolhapur district of Bombay State a yield of paddy of 78 Bengali mds 7½ seers per acre was obtained from the plot fertilised by compost and superphosphate which were mixed 20 days prior to use on the field, whereas the yield obtained from the control plot where the same amount of compost and superphosphate were used separately was 53 Bengali maunds 3 seers per acre.

(7) **Response of Jowar**

In a trial conducted on the field of a cultivator in Kolhapur district of Bombay State a yield of jowar of 85 Bengali mds per acre was obtained from the plot fertilised with compost and superphosphate which were mixed 20 days prior to use on the field, whereas

the yield obtained from the control plot where the same amount of compost and superphosphate were used separately was 52 Bengali mds. per acre.

General observations on the results of experimental trials.

7. The above trials give fair idea to what enormous extent increases in crop yields are obtainable by the fusion of superphosphate with organic matter.

Concluding remarks

8. From the foregoing presentation of scientific data it is quite evident that although superphosphate contains no nitrogen in its make up, yet it adds considerable quantities of atmospheric nitrogen if it is used intimately mixed throughout the matrix of compost. Fertility level of Indian soils is very much low down and consequently the yields of crops per acre are almost lowest in the world. Application of super compost year after year is, therefore, quite necessary not only to increase crop yields but also to raise the fertility level of the soil and at the same time maintain soil phosphorus reserves. Ineed investment on super compost manuring is cheap, feasible and also effiective over a period of years. To upgrade and maintain fertility of soil and high yields of crops at maximum level application of super compost every year in good quantities is absolutely essential.

It is very easy to prepare Super Compost. All that is required to be done in this connection is to incorporate superphosphate thoroughly and evenly with each and every layer of organic matter in the following quantities viz :—

(1) For a standard compost pit (10′ × 6′ × 3′) a quantity of 50 killos of superphosphate should be added at the time of filling the pits with fresh organic waste.

(2) In the case of ripe compost superphosphate should be added at the rate of 25 killos per ton and the mixture allowed to remain in heap in shade for 15 to 20 days before use.

(3) In the case of green manuring crop which is directly turned into the soil, it is advisable not only to apply a liberal quantity of superphosphate, say 150 killos per acre to encourage bumper growth of green manuring crop but also to mix superphosphate with the fresh organic matter just when it is turned under, so that green manure ultimately becomes supercompost in the soil after decay for use of the succeeding crops which will get the benefit of very substial quantity of fixed nitrogen in addition to the nutrients already contained in super compost. Besides, the crops getting substantial amount of plant nutrients, the productivity of the soil will improve considerably.

In short Super compost is one of the biological means whereby every field to which it is applied becomes a factory of nitrogen fixation and is also a good answer to food problem.

MARKET FUNCTIONARIES AND INCIDENCE OF MARKET CHARGE IN MADHYA PRADESH

By : LAKSHMAN SINGH

General

"MARKETING is the crux of whole food and agricultural problem" * one would imagine that, under a system of individual enterprise and freedom of individual choice, market services should have been performed at the cheapest rate but in under developed countries where the farmers lack proper resources of storage, finance and above all a sound organisation, they have little say in marketing their products. Unlike developed countries, traders have some sort of monopolistic and monopsonistic dominations in Indian markets. The poor cultivators do not leave any stone unturned to better their lot by maximising production with scarce resources but are very often, than not, exploited by the unscrupulous traders for want of efficient machinery to look after their interests. Before they are paid the price of their produce, numerous deductions are made of which many are not only unwarranted but beyond rational conceptions. These charges go in the name of "Market or Incidental charges". A study of the some of the typical mandis in Madhya Pradesh has been undertaken to indicate the nature and extent of malpractices in Indian agricultural markets.

Market selected for study

(ii) For our study four types of markets with two mandis of each type have been selected which are representative of the mandis existing at present in Madhya Pradesh. The first two Akaltara and Kotma are village hats and seasonal, functioning for a limited period after the harvest of the crop. The market is held only on Monday at Kotma but there is no market so to say at Akaltara where producers directly take their produce (paddy) to the rice millowners. The second two markets Bhopal and Raipur are good mandis and are being managed by a committee set up under the Bhopal Municipal Act of 1936 and Central Provinces and Berar Municipal Market Act of 1922 respectively. The third two Morena and Indore are regulated mandis under the Madhya Bharat Agricultural Produce Market Act of 1952. The last two Harda and Jubbalpur are primary and secondary mandis respectively and are unregulated.

Definition

A large number of functionaries operate in the wholesale mandis rendering diverse services in the disposal of the goods and for that they are being paid according to the Market practices prevalent in different markets. Here we consider only the charges borne from the point of entering the goods in the market to the point of final disposal into the hands of purchaser in the same mandi. These Market charges go under a variety of names indifferent mandis but mainly they fall under the following heads.

(i) Taxes & Tolls (ii) Commission (iii) Weighment charges (iv) Palledari (v) Handling charges (vi) Brokerage. (vii) Charges for other services for cleaning and sieving etc. (viii) Charity. (ix) Karda (quality allowance) (x) Dhalta (weight allowance) (xi) Mudat (xii) Trade Association charges and others. Of these, the first six are

* Marketing committee of the United Nations conference on Food and Agriculture October, 1945.

actually the charges for rendering direct services to the sellers or buyers but the rest may be said uncalled for.

Nature of Market Charges

Firstly we will see how diversified are the sytem of market practices from one market to another and secondly how much the producer seller and buyer have to pay on agricultural goods sold worth Rs. 100, the selling price being fixed at Rs. 16.00 per md.

Taxes and Tolls :

Before the goods enter into the mandi for disposal, the producer (or anybody who brings for disposal in mandi) has to pay two types of taxes, firstly the octroi or toll tax levied by the municipality for plying vehicles within the municipal limits and secondly market fees charged by the owner of the market for utilising the market yard. Octroi duty is charged on maundage besis as well as cart basis. It varies from Rs. 0.03 per md. in Morena to Rs. 0.05 per md. in Jubbalpur. In Akaltara, Gram panchayat charges Rs. 0.25 per cart as vehicle tax where as Indore Municipality charges Rs. 0.06 per cart from the producers. So far market fee is concerned, in regulated mandis it is charged by the Market committee Rs. 0.06 per cart both from the seller (producers) and buyer where as in municipal mandis and others (except Kotma) it is being charged from the producer only. Here again it varies from Rs. 0 12 per cart in Bhopal to Rs. 0.25 per cart in Raipur and Rs. 0.12 per cart in unregulated mandi of Harda. The chief feature of this tax is that higher rates are prevalent in the markets managed by Municipal committees in comparison to regulated and unregulated markets. Higher charge in municipal mandis is due to the fact that mandis are the special sources of augmenting their income.

2. **Commissions**

This is a renumeration paid to the 'Arhtiyas' (commission agents). These Arhtiyas are of three types, Kachcha Arhtiyas who act solely on behalf of producers, Pakka Arhtiyas who act solely on behalf of buyers and mixed type who act both as Kachcha and Pakka Arhtiyas. Under Madhya Bharat Agricultural produce Market Rules 1953, the first two types of commission agents are called " Arhtiyas ".

The commission of Kachcha Arhtiya differs from market to market. While it is Rs. 1.00 per cent in regulated mandis as fixed under Madhya Bharat Agricultural Produce Market Rules 1953, it varies from Rs. 0.50 per cent in Jubbalpur to Rs. 0.75 in Raipur. In markets like Akaltara where producers take their produce directly to traders or at mill gates, no commission agent is employed and hence no fees paid by the producers. So far the commission of Pakka Arhtiya is concerned it varies from Rs. 1.00 in regulated mandis to Rs. 0.37 in unregulated one. Thus we find that in regulated mandis, commission charges paid by both the producers and buyers are higher in comparison to unregulated mandis or mandis managed by local bodies, though other incidental charge are more in unregulated mandis as we shall see latter on. While the local traders who make purchases for themselves have not to pay any commission in regulated and municipal managed mandis, they have to pay commission to Kachcha Arhtiyas in unregulated mandis varying from Rs. 0.37 per cent at Jubbalpur to Rs. 1.00 per cent at Kotma. Traders from out-side have to pay commission of Rs. 1.00 per cent in regulated mandis but in Morena (regulated) and other unregulated mandis traders carry their business even at lower rates.

3. **Weighment Charges**

In regulated mandis, besides the market fees and commission all other charges are governed by the bylaws of the market committees. As such they differ from market to market. In regulated mandis while no weighment charge is paid by the producers at Morena it is charged @ Rs. 0.06 per bag at Indore. In some of the unregulated mandis viz. Akaltara it is charged both from the buyer and seller and in other from either of them. The weighment charge borne by producers varies from Rs. 0.06 per cent at Akaltara to Rs. 0.31 per cent at Jubbalpur and in case of buyer (local) it varies from Rs. 0.06 per cent (Rs. 0.25 per cart) in Akaltara to Rs. 0.31 per cent in Harda. At Kotma weighment charge is paid in kind but in others it is paid in cash.

4. **Palledari**

This is the charge paid to labourers who are licensed workers in regulated mandis or mandis managed by municipal committee and independent or employees of commission agents in unregulated mandis. While in some mandis viz. Morena and Akaltara, no such charge is in practice but in others it is paid by either the producer or the buyer. In most cases palledari is borne by the producer but in secondary transactions they are being paid by the buyer. Palledari is generally paid in Rs. per bag and varies from Rs. 0.05 per bag at Harda to Rs. 0.19 per bag at Indore. In village mandis viz. Kotma it is being charged in kind @ ¼ seer (equivalent to Rs. 0.10) per bag.

5. **Brokerage**

This is a charge paid to Dalals who assit Arhatiyas in bringing together sellers and buyers. In primary mandis village Banias or producers know their commission agents and take their goods directly to them and therefore nothing is paid as brokerage in all the primary transactions. Similar is the case in regulated mandis and mandis managed by the municipal committees. In secondary transaction, however, brokerage is paid by the buyer which varies from Rs. 0.08 per cent at Indore to Rs. 0.13 per cent at Raipur, but at Bhopal the usual practice is to include palledari and brokerage charge in the rate itself. In unregulated markets like Harda brokerage is charged from the producer (seller) and buyer both, for here more than 75% of the total arrival of wheat is exported and therefore broker's assistance in bringing the buyer is very much important.

6. **Charges for other services**

Under this head charges for the services like cleaning and sieving are included. But because of high charges and underhand dealings of labourers employed, producers generally bring grains in cleaned form. Only in the market of Raipur a rate of Rs. 4.56 per cent was in vogue but cultivators rarely employed labourers for the same.

7. **Charity**

All the charges from item No. 7 to 12 are unwarranted. They are being levied for the purposes which do not help directly in marketing of agricultural produce. Charity in the name of beggars and girl schools is one of them. However, no fee for charity is realised from producers in regulated mandis (except one at Indore). But in unregulated mandis of Harda and Jubbalpur and Muncipal managed market of Bhopal it is being charged both from the seller and buyer at the rate of Rs. 0.02 per bag in the first two and Rs. 0.12 per cent in the last one.

8. **Karda**

It denotes allowances for dust which remains in the agricultural produce

inspite of all the care to bring it in cleaned form in the mandi. This was an old practice and is decaying day by day. It is only in big assembling and consuming mandis like Indore and Jubbalpur that such charges are still prevelent there. It is realised in kind and varies from 6 chhataks per bag at Indore to one chhatak per bag at Jubbalpur. But the Karda is not only paid by the producers but also seller (trader) when he disposes off his goods to some other traders.

9. **Dhalta (weighment allowance)**

No such charge is in vogue now. The weights are generally Bengali maunds (82 $\frac{2}{7}$ lbs) and weighment done on beam scale.

10. **Mudat**

In some of the markets, it is presumed that producers (sellers) must get their payment after a week or so, as Kachcha Arhtiyas generally get their payment within certain stipulated time limit from the buyers. Therefore, some deduction is made from the producers. Such charge is being realised from producer at Indore @ Rs. 0.19 per cent if he gets the payment then and there.

11. **Trade Association Fees**

This is most unwarranted charge. For meeting the expenses of their association, traders charge @ Rs. 0.06 per cent both from buyers and sellers at Indore and @ Rs. 0.02 per bag. from sellers at Jubbalpur.

12. **Others**

In some mandis Kachcha Arhtiys while making payment to the producers make certain deductions for services of their servants, munims and milk of their children. This type of charge was found only at Indore. They charge Rs. 0.02 per cent.

Charges Payable by Buyer & Sellers on Goods Worth Rs. 100

The total incidental charges on goods worth Rs. 100 borne by sellers and buyers do not only vary from one market to another but according to the nature of deal too. Let us first examine the case when transactions take place between producers and local traders through commission agents.

The following table shows the charges paid by producers (sellers) and local traders (buyers) on goods worth Rs. 100.

	Akltara	Komta	Bhopal	Raipur	Morena	Indore	Harda	Jabbalpur
Borne by producer	0.19	1.54	2.58	1.35	1.22	2.29	1.56	2.06
Borne by buyer	0.06	1.28	0.08	0.33	0.03	0.05	0.43	0.31

Barring Kotma where there is no middle man (Producers taking their grains directly at mill-rates) and Akaltara where market yards owned by individual Kachcha Arhtiyas, in all other mandis, producers have to pay very high in comparison to buyers. In case of producers, total charges paid by them vary from Rs. 1.22% at Morena to Rs. 2.58 p. c. at Bhopal as against Rs. 0.03 p. c. at Morena to Rs. 0.43 p. c. at Harda paid by Buyers. At Indore under the by-laws of Madhya Bharat Agricultural Produce Market Rules, 1953, Producers are required to pay only commission of Rs. 1.00 per cent, but they actually pay Rs. 2.29 p. c. so far buyer are concerned, the total charges (excluding Akaltara and Kotma) vary from Rs. 0.08 percent at Bhopal to Rs. 0.42 p. c. at Harda. From the above table it is clear that lowest charges are paid by producers in regulated mandis and highest in the markets managed by

Municipal Committees. But regulated mandi like Indore is an exception where charges borne by the producers are as near as highest charge paid by their counter-parts in Municipal mandi like Bhopal. Charges paid by buyers (local traders) are highest in unregulated and lowest in regulated mandis.

When the buyer is outsider he has to bear, besides others, commission charges to the Pakka Arhtiyas and therefore has to pay higher percentage in comparison to local buyers as can be seen from the table given below.

Incidental charges	Indore	Harda
1. Borne by producers	2.29	1.56
2. Borne by local traders	0.05	0.43
3. Borne by outsiders	1.05	1.20

When transactions take place between one wholesaler and another wholesaler (from outside) charges payable by the two depend on the type of contracts made between them. Rates may be fixed exclusive of incidental charges, inclusive of incidental charges, inclusive of commission charges but excluding other incidental charges and so on. At Morena the general practice is that rates fixed in secondary transactions are exclusive of incidental charges. The buyer has to pay Commission, Palledari, Brokerage and Charity the total of which comes to Rs. 1.19 per cent. At Bhopal rates fn secondary transaction are very often fixed inclusive of commission but excluding palledari and brokerage and the buyer has to bear Rs. 0.39 per cent over the price paid.

Conclusions

The above study shows how great are the diversities and malpractices in the grain markets of Madhya Pradesh. While the incidental charges are on the whole lower in regulated mandis, too much leniency on the part of the authorities of market committees in enforcement of laws in some of them makes the position far from satisfactory. This suggests that remedy lies only in immediate enactment of a comprehensive Agricultural Produce Market Act and enforcement of laws with firm hands. The latter is possible only when the Market Superintendent is the man from Government's side and the Chairman a representative of producers.

MARKETING OF MILK AND MILK PRODUCTS

By: TARLOK SINGH SANDHU

MARKETING is a complex organisation. Many interests are involved before the product reaches from the primary producer to final consumer. Various types of commissions and commission agents are involved in the disposal of agriculturel commodities. The weights and measures used in the trade are of different denominations at each transitional stage of marketing. The trading of agricultural commodities is in no way organised. Many petty distributors are usually found in the marketing of agricultural commodities. Milk trade in India is not also not free from such serious defects. Adulteration is wide spread. The marketing of milk and milk products in Indian union is a subject itself which has been dealt with emply by the Marketing Adviser to the Government of India. However, my cursory glance over this problem will

touch only the fringe of the problem. But, theoretically, it suggsts many improvements to be incorporated in our Five Year Plan series for the improvement of our haphazard milk marketing on scientific lines.

The various studies in and abroad the sub-continent suggest that the price spread or the marketing margin between the price paid by the final consumer and the price received by the producer is astonishingly considerable. This continues to be an important and vexing problem. In a very recent report, marketing margin of fresh milk in U.S.A. offers very interesting case study and suggests that a very bold step should be taken to cut down the margin to the minimum so that better public welfare may be achieved, specially the producers and consumers who are a major percentage of the whole population.

Year	Retail price cents.	Farm Value cents.	Marketing margin cents.	Farmers' Share percentage
1947	18.8	10.3	8.5	55
1948	20.9	11.3	9 6	54
1949	20.1	10.3	9.8	51
1950	19.6	9.8	9.8	50
1951	21.9	11.2	10.7	51
1952	23.0	11.9	11.1	52
1953	22 8	11.1	11.7	49
1954	22.4	10.3	12.1	46
1955	22.5	10.2	12 3	45

On an average farmer received only half of what the consumer paid to the distributer; the other half is shared by the distributers. The studies conducted in India are not shorn off from these basic facts. Again, the price spread in between the intermediaries varies considerably. The local milk collector (i. e. Dodi) has very little benefit to his person while disposing off milk to Urban vendor (Halvai). It may be noted that the highest percentage of the margin is shared by the Halvai who retails the milk in small denominations and in different conditions (Say hot, sweatened and ice cold milk). The following inductive findings of the scholar throw some light on this subject.

PUNJAB STATE 1959

Month	March	April	May	June	July	Aug.	September
Average farm value of milk per maund	13.00	13.60	16.00	15.30	14.50	12.00	12.00
Averge price paid by consumers	22.40	23.60	25.20	26.80	27.60	27.00	27.00
Marketing margin	9.40	10.00	9.20	11.50	13.10	15.00	15.00
Farmer's share of total value	40%	42.5%	63.5%	57%	52.5%	44.4%	44.4%

		Marketing margin.
Average price paid to producer per maund	=1380 Np.	
Average price paid to Dodi (intermediary)	= 1750 Np.	370 Np.
Average price charged from consumers by Halvai	=2560 Np.	810 Np.

Magnitude of these margins is also directly related to the marketing costs. Isolism of village from towns is still a common phase. Many villages do not have main or even approach roads. Footpaths are common feature of Indian rural economy. Naturally, means of transport are slow moving and time consuming ones. Even though some of the villages have road links, they become unapproachable during rainy season due to defective level and unmetalled routes. Transportation by means of head loads, donkeys, camels, horses, carts, are still the common feature of our economy. We find complete absence of even primary cooperation in villages. Cooperation is loosing ground due to inadequate persuation by the authorities and due to lack of responsibility on the part of individuals. Temperature variations result in the spoilage of milk during transit. All these surmountable barriers result the marketing margins to swell up, thereby forcing the farmers to accept the minimum price.

How can this margin be reduced? Complete elimination of middle man's margin is not possible; as the function of distribution of milk is a seperate entity. Whether the function is taken over by producers or consumers' cooperative or both or some governmental body or a private corporative of the middle men, there is, however, possibility of reducing this margin to an economic level, a level which connotes justification focussing its attention on the marginal efficiency of such organisations.

In theory and practice much of our attention is concenterated in squeezing out the marketing margin to the minimum so as to bring down the price. And, it is usual for the students of marketing to adopt marketing margins as a criticism for judging the relative efficiency of marketing. If margin is large, market is considered to be inefficient. Dantwala (1957) would like to submit that this problem should be considered a little more closely. The total size of the marketing margin will depend upon the services necessary for taking commodity from the farm to consumer. Distance between the farm and place of consumption will determine the extent of price spread. It is, therefore, obvious that what matters is not so much the total size of the margin as the elements of profit but the avoidable cost in it. Dantwala felt constrained to make such an obvious statement because of excessive preoccupation of students of marketing in India with the size of the marketing margins, which are some how looked upon as deductions from the farmers' legitimate incomes. This preoccupation diverts the attention from one of the most important functions of good marketing, viz, widening and deepening of the market for the produce. In concentrating too much on the size of the share of price, we are apt to ignore the size of the price itself. It may not be out of place to point out that in most of the countries which can claim efficient marketing of the produce, the marketing margins, judged in terms of the percentage of the consumer's rupee or dollar, are not smaller than those in countries where marketing is admittedly inefficient. In developing economies there is a tendency for the margin to swell up. But, it would be absured to deduce from this that marketing is becoming more inefficient. The middleman, as visualised in the next ten years or so, will still be important and it is he that may take away the benefit of supported price (Mahabal 1956).

If students of marketing still insist to cut down the cost of distribution in a growing economy, it is, however, suggested to declare the distribution of milk a

'Public Utility' case; like water, gas and electricity of the accepted defination by economists. Public Utility is a business having certain common characterstics, and one in which only those may engage who have been granted a franchise by the Government (Martin G. Glaeser). If the spread between what the consumer pays and what the producers properly received for milk will be narrower under a unified system than under a competitive system, then the change over to unification will be to the public advantage.

The fact is reasonably well established that, in a given sized city, the larger milk distributing companies generally operate at a lower unit cost, or its counter-part, a higer profit, than do the smaller companies (Mortenson). The difference is fundamentally the result of increased physical efficiency due to size. The increased physical efficiency would be at a diminishing rate after a point of optimum is reached, and to cover the scattered and distant sections of the city, the cost may increase slightly.

The margin may not fall under unified system too, if the state officers and employees are corrupt, inefficient, and go on strike and realise a rise in their pays and wages every now and then. The higher establishment charges may eat up the saving caused as a reduction in the marketing margin through efficient distribution. The public utility would be a sucess if producers, consumers and state employees-have the will and capacity to make it succeed so that with the introduction of new technique machinery, the margin which is likely to be reduced may be sustained at the same level. It is further expected that the service rendered by public utility undertaking will decidedly be of superior in nature.

If it is desired to reduce the cost of marketing milk and milk products, the Road building work in rural areas must be accorded top priority. Isolations of villages from towns must be dispelled. Efficient means of transportation will follow automatically. Developing economy will demand the set up of milk collecting centers fitted with modern chilling and storage facilities. All these factors will go a long way in keeping up the quality of milk. This will encourage more milk consumption as prices would be within the reasonable limits of all consumers. Total efficiency of our human beings will rise as milk is considered to be great raiser or human happiness and health.

Milk products too demand standardisation. Directorate of marketing is introducing Agmark for the quality control of Ghee and Butter. Indian Standard Institute (ISI) is also exploring the possibilities of fixing standards for other milk products such as Khoa and Dahi. The rising tempo of butter manufacturing, as envisaged by the output of Polsons Dairy Ltd. and Kaira District Milk Union Ltd Anand, and the introduction of Milk Schemes in various cities reflect that marketing of milk and milk products is likely to be on more organised scale.

ECONOMIC STUDIES OF SUGARCANE IN U. P.

By: Dr. J. S. GARG & N. S. RAGHUVANSHI

Objective

THE investigation was conducted in district Muzaffarnagar with an objective of determining the utilization of Input Factors of Production in terms of physical units and money requirement for sugarcane cultivation in the region of the State, known for the suitability of the crop. The Input Factors like human and cattle hour units, the quantity of seed and manure and number of irrigations required per acre were under investigation. Output factors like an average yield per acre, cost of production per maund, the Gross and Net Profit, Farm Business and Family Labour Income per acre and other measures of farm profits were also studied. The utilization and marketing of sugarcane and gur were under investigation.

Method of Approach

The cost accounting method of collecting the data was adopted for the proposed study. Out of four tehsils of the district, two tehsils namely Muzaffarnagar and Jansat were selected on random basis. Two villages from each tehsil and fifteen holdings from each village were under investigation. The villages were Khaikhera, Shahaidpur, Movmajansat and Kawal. The purposive method of selection was adopted for the selection of villages. The easy and regular transport and communication facilities throughout the year were the main criteria of selection. The holdings were selected on random basis. There were three size groups of holdings viz. below 5 acres, 5 to 10 acres and above 10 acres. Five holdings from each size group in a village were investigated. Thus there were 60 holdings under study.

Result and Discussion

On the basis of the above investigation, it was observed that the average cost of cultivation including interest on working capital at the rate of 6% was estimated to be Rs. 360/- per acre for planted cane and Rs. 203/- for ratoon cane. The major cost was shared by labour and seed. They alone accounted for Rs. 200/- or 56% of the total Cost of planted cane. The cost of cultivation per acre of ratoon crop was 56.4% of the cost of planted cane. No preparatory tillage and cost of seed was mainly responsible for reducing cost in this case. However, it has adversely affected the yield. The yield of ratoon cane was sufficiently lower than the planted cane per acre. The average yield per acre for planted and ratoon crop was 358 and 264 maunds respectively. The average yield of both the crops on combined basis was 311 maunds per acre, on the whole.

The cost of production between ratoon and planted crop compared favourably which was 75 and 100 N. P. per maund respectively. It included the cost of transport as well. The everage cost of production of sugarcane both planted and ratoon combined was estimated to be 87 N. P. per maund. It was observed that the cost of production was higher on smaller holdings which was as high as Rs. 1.37 N. P. per maund in some cases. The higher cost of cultivation and lower yield per unit were responsible for higher cost of production in this case.

The value of output on average, per acre for both planted and ratoon crops, on the basis of prevailing market rates during the year 1958–59 is given below:–

Measure of Profit.	Planted sugarcane	Ratoon sugarcane	Averge of 2nd and 3rd column
1. Gross profit	488.37	349.54	418.95
2. Net Profit	156.07	177.04	166.55
3. Family labour income.	233.78	230.52	232.15
4. Family bullock income.	255.78	248.60	251.19

The input-output ratio was higher in case of ratoon crop being 1.68. The same ratio in the planted sugarcane was 1.37 only.

As regards the utilization of the crop, it was mainly consumed in the manufacture of gur, sugar and khand. The consumption of sugar factories for the manufacture of sugar accounted for 28.12% in 1954-55 and 48.78% in 1955-56 of the total production in the district of Muzaffarnagar. It was 33.45% in 1956-57 against the average of 18.7% of the total production of U. P.

The total production of sugarcane in the Distt. varied between 545.33 lakh tons in 1955-56 and 849.27 lakh tons in 1954-55. The production of sugarcane for the year 1956-57 was 822.51 lakh tons only.

The marketing of sugarcane was entirely through the sugarcane Cooperative Marketing Societies. There were four factories, each at Khatoli, Mansorpur, Rohna Kalan and Shamli and 14 Cooperative Societies. The market rate of sugarcane was Rs. 1.44 at the factory gate delivery and Rs. 1.31 at the weighing centre nearer to the villages.

It was observed that nearly 50% of the quantity of the produce in the district was utilized for the manufacture of gur, as it was beyond the capacity of the sugarcane factories to make any more consumption of sugarcane. It was estimated that the producer's share in the price paid by the consumers for gur was 74 N. P. in a rupee. The average cost of storage of gur per maund for 6 months was estimated to be Rs. 2.20. The fluctuation of prices of gur in the mandi of Muzaffarnagar for the year 1956 was noticed to be from Rs. 14/-per maund in January to Rs. 24/- in October.

It can be concluded that though the soil, climate and hard working habit of the farmers in the District of Muzaffarnagar favoured the cultivation of sugarcane, yet there is much more scope for increasing the yield per acre and reducing the cost of production per maund, by utilizing improved good seed, proper manuring and adoption of proper plant protection measures and irrigation facilities. However the marketing of gur requires Regulated Marketing so that at the moderate market charges, better marketing facilities may be provided to the producers.

PRIZE DISTRIBUTION BY THE PRIME MINISTER SHRI JAWAHARLAL NEHRU

ON the 10th of April this year, on the vast open space adjoining State Transport Ground at Satara, a district town nestling in the valleys among the spurs of the Western Ghats of Maharashtra, a vast multitude of people—men, women, and children, stood to witness India's Prime Minister Shri Jawaharlal Nehru distribute prizes to four cultivators of Satara district.

Shri Yeshwantrao Chavan, Chief Minister of Bombay State, explained to Shri Nehru the object and purpose of the government scheme under which the prizes were to be distributed.

The prizes were given under Dharamsi's Paddy Competition Scheme which is run by the department of Agriculture, Government of Bombay, in 26 blocks brought under the Paddy Pilot Scheme. The Paddy Pilot Scheme envisages growing of paddy crop by applying modern methods of agronomic practices on the lines recommended by the Department of Agriculture which essentially include application of chemical fertilisers and use of improved seeds which are supplied to the cultivators on Tagai loans. The prize winners were (1) Shri Sampat Hariba Dhanvante and (2) Shri Tukaram Ganpati Sanas of Satara district who won 1st and 2nd places not only in their own blocks but also amongst the competitors of all the 26 blocks of Bombay State during the year 1959-60, and (3) Shri Baburao Dhondiba More and (4) Shri Bandoba Chandrappa who won 1st and 2nd places in the previous year.

Dharamsi's Paddy Competition Scheme has been running since the year 1957 in each of the Paddy Pilot blocks. In the year 1957-58 there were five such blocks; in 1958-59 the number of blocks was increased to nine and in 1959-60 twenty six blocks were brought under the paddy Pilot Scheme. The prizes are offered by Messrs. Dharamsi Morarji Chemical Co. Ltd., Bombay, who have been supplying superphosphate to the department of Agriculture, Bombay State, for their various intensive cultivation schemes. In each block two prizes are awarded, the first prize being Rs. 200/- and 2nd prize Rs. 100/- to the cultivatiors obtaining the highest and second highest yieds in their respective blocks. In addition to the cash prizes a rolling shield together with a replica of the same is awarded at State level to the cultivator who obtains the highest yield in the whole of the State. This year the shield fell to the fortune of Shri Sampat Hariba Dhanvante who obtained a yield of 149 B. maunds per acre of paddy.

Results of crop cutting conducted by the department of Agriculture in the year 1959-60 showed that on an average local methods gave a yield of 15 B maunds of paddy per acre. Under the Paddy Pilot Scheme the average yield went up to 35 B. Maunds. The average per acre yield obtained by the cultivators who took part in the competition has been stepped up to 71 B. maunds. Raising the level of average per acre yield of paddy to 71 B. maunds as forced out under competition spirit is undoubtedly marvellous and shows how much can be done and produced by adopting scientific methods of production.

HANDLOOM INDUSTRY AT CHOMU, DISTRICT JAIPUR

By: Dr. R. G. SARIEN & D. N. KHOSLA

CHOMU is one of the biggest centres of handloom industry in Rajasthan. It is located at a distance of 20 miles from Jaipur. It is a Railway Station on Jaipur-Loharu section. The total population of the town as per 1951 census is 12929[1].

Class of Weavers: The total number of persons employed in this profession is 1160. They include independent workers, master weavers and the Co-operative Society workers. Their analysis according to the above categories is as below:

Independent workers	510
Master Weaver employees	400
Co-operative Workers	250

The first Co-operative Society was founded in the year 1955. By the end of the year 1958, then umber of Societies had risen to 26. The total membership was 6,621 with Rs. 16,745 as working capital.

Number of Looms: The total number of looms actually working in the area is 960. Out of these only 567 have been registered so far.

Type of Looms: Both throw shuttle pit looms and fly shuttle pit looms are working. But with the location of the Khadi Centre frame looms have also been introduced. The total number of the looms divided according to the type is as below:

Throw shuttle pit looms	400
Fly shuttle pit looms	500
Fly shuttle frame looms	60
Total	960

New Looms: This centre had a great development since integration. The year 1953 showed a remarkable progress with the installation of a number of new looms. On enquiries made on the spot it was discovered that in the year 1952 about 200 looms were lying idle due to one reason or the other. But since 1953 not only these looms were rehabilitated but even new looms were also established. The yearwise progress made in this work was as below:—

1954	40	idle looms rehabilitated
1955	60	
1956	30	
1957	20	
1958	20	
Total	170	(Bear round figures)

Yarn employed: There are two types of yarn employed by the weavers. There are those who weave pure khadi. They get yarn supplied by the Saranjam Karyalya at Chomu. The number of such looms is 412 and the remaining 548 employ mill made yarn according to the article to be manufactured.

Investment: The average investment per loom for cotton handloom industry in Chomu is analysed below on the basis of the information collected from 60 looms.

(a) Value of loom (pit loom)	Rs. 30
(b) Value of equipment	Rs. 25
(c) Value of land and building	Rs. 200
Total	Rs. 255

The value of the frame looms is higher and it has been gathered that it varies from Rs. 350 to Rs. 450 as total cost.

Production: The average length of cloth in yards in one pound of yarn in

1. Census of India, Vol. X, Part IIA, p. 52.

different count groups is assessed as below. This was collected during the survey of about 60 looms employing mill made yarn and the similar number employing khadi.

11S–20S	4.00 yards
21S–40S	5.00 yards
41S–60S	7.25 yards
All counts	5.25 yards
Khadi all type	4.25 yards

The year-wise production of cloth of khadi, mill made yarn and mixed yarn at this place is as below :

Year.	Cloth in yards produced	Yarn in lbs. (employed)
1955-56	3,23,800	64,000
1956-57	3,31,000	65,600
1957-58	3,55,900	71,200

Types of cloth produced: The main types of items produced at this centre are (1) Dhotis, (2) Sarees, (3) Bed sheets plain and designed, (4) Shirting cloth, (5) Curtain cloth, (6) Plain cloth, etc. The present writer tried to collect the information regarding the production figures of all these items separately but as there was no record available with any of the agencies he could not split them up.

Working Capacity: On interrogation to the workers it was revealed that the capacity of each worker is 10 hours a day as average working capacity. But very few workers employ themselves to the capacity. They informed that the average working of a weaver is about 4-5 hours a day. This means that a worker generally keeps himself under-employed for about 50% of the working hours. The main reason put forth by them were the shortage in the supply of yarn which they get from the local suppliers.

Cost of Production: The average cost of production per yard is given below. There is variation in costs of independent workers and those of co-operative fold as well as with master weavers. The analysis of all the three categories reveal differant cost. It is mainly due to differentiation in the prices of the raw material i. e. yarn.

Cost per yard of cloth produced.

Items	Indepen-dent worker	Master weaver	Co-operative worker
Raw material			
Yarn	0–9–0	0– 8–7	0– 8–3
Other material	0–1–0	0– 0–10	0– 0–8
Cost of Labour			
Weaving	0–3–6	0– 3–6	0– 3–6
Dying	0–3–0	0– 3–0	0– 3–0
Total cost	1–0–6	0–15–11	0–15–5
Average retail price in the market	1–3–0	1– 3–0	1– 3–0

It can be explained that the weaving charges of the independent worker have been calculated in uniformity with the wages which are paid to the weavers by other institutions. It is only the cost of raw material which is mainly responsible for making a differentiation in the total cost.

Cost Analysis Item-wise :

Type of Cloth	Specification: Width	Specification: Length	Picks	Reeds	Count of Yarn: Warp	Count of Yarn: Weft	Cost of material: Yarn Rs.	Cost of material: Others Rs.	Cost of Labour: Weaving Rs.	Cost of Labour: Dyeing	Total cost Rs.	Retail price in the market Rs.
1. Dhoti	48″	5 yds	48	42	26S	26S	3– 4–0	0– 8–0	2–0–0	Nil	5–12–0	6–12–0
2. Dhoti	48″	5 yds	70	60	60S	60S	4– 4–0	0–12–0	2–4–0	Nil	7– 4–0	8– 4–0
3. Saree	48″	5½ yds	70	56	60S	60S	4–12–0	1– 0–0	2–4–0	1– 0–0	9– 0–0	10– 0–0
4. Bed Cover	5 ft.	7 ft.	38	32	20S	20S	3– 0–0	0– 8–0	1–8–0	0–12–0	5–12–0	7– 0–0
5. Bed Cover	5 ft.	7 ft.	32	30	16S	16S	2–12–0	0–12–0	1–8–0	1– 8–0	6–12–0	7– 8–0
6. Plain cloth	60″	8 yds	70	60	60S	60S	5– 8–0	1– 0–0	3–0–0	Nil	9– 8–0	12– 0–0

Marketing. A considerable portion of the produce is taken over by the Government Agencies, i.e., Central Co-operative Marketing Society for sale through its own agencies and emporia. The purchases by the dealers from the mofussil areas is also not ruled out. Dhotis and sarees are mostly taken over by the Emporia. The local market is not so heavy, mostly the goods are exported to outside stations.

Supply of Yarn and Raw Materials: The requirements of yarn are met either by the home spinning or by the Saranjam Karyalyas as regards the Khadi but the mill made yarn is procured through the local dealers from Jaipur which is the nearest market for this. The Co-operative Society is provided with the requirment of yarn by the Central Co-operative Society.

Indebtedness. The weavers were not prepared to disclose it as they consider it a business secret. On cross examining them in variety of ways it was however revealed indirectly that they had to undergo indebtedness for yarn and other requirements. But the exact level of indebtedness was not known.

Employment :—As every loom is a working loom it provides whole time employment i. e. works for 10 hours a day to two persons per loom. But as the weavers are faced with certain difficulties, the forced idleness for sometime is there. And taking this into consideration the means of subsistance provided by each loom is to 2.75 persons.

General :—The weavers of Chomu are mostly illiterate. The designs whatever they translate into their art are the outcome of their own mental experience. The economic condition is not so sound that they can be called better off. They are just pulling. The case with the employees of the master weavers as well as with co-operative fold is the same. But it can be safely said that with the passing of the time their condition is heading towards improvement.

CASE FOR TACKLING FOOD PROBLEM IN THE THIRD FIVE YEAR PLAN

By : Prof. S. L. DOSHI

PLANNING has become the slogan of our time, talk of the day and need of the hour. Either we plan properly or we perish. With the 2nd Five Year Plan nearing completion and the nation preparing for the Third Five Year Plan, the problem of Food has again come to the forefront. It was thought that with the Second Five Year Plan, we would be in a position to solve our crying food problem. But we are completely disillusioned. Food problem has remained unsolved with the result that an agreement was signed in Washington on May 4, 1960 under which the U. S. A. will ship 16 million metric tons (about 587 million bushels) of wheat and one million metric tons (about 22 million bags) of U. S. rice in the next four years to meet our deficits and build up a reserve. For these commodities plus some shipping costs, India will pay the U. S. A. $ 1276 million in rupees. This affords only a temporary solution of the country's difficulties.

Most of man's existence has been plighted with food shortage and even after

some hundreds of thousands of years of striving, man has failed to obtain a decisive victory in his struggle for existence. Prof. Dudley Stamp of the International Commission while organising a survey of the use of land throughout the world has expressed the opinion that food production is not keeping pace with the growth of the human family despite the advance of science. The rate at which the family is growing is alarming. Twenty million more mouths to be fed each year or 60,000 to 70,000 more mouths demanding food as each day dawns is a formidable prospect. Prof. Castro has remarked "Two thirds of the world's population live in a permanent state of hunger".

In a predominantly agricultural country like India, which is undergoing transformation under the impact of a planned process of development, the quantity and the quality of food grains available assume special importance. It is not merely the problem of feeding the hungry, but it is a basic problem which has a vital connection with our progress and development as well as the stability and the health of the country. Our standard of food, clothing, housing, education, medical and cultural amenities etc. is far from satisfactory even according to any theoretical Asian (and not western) optimum standard of living that we may devise. Immediate and drastic increase in food production is India's primary problem. Without enough food, India's hope for improving human welfare, achieving social justice and securing democracy will become almost impossible of attainment. Prof. M. L. Dantwala the well known economist said in New Delhi, while speaking on "The Food Problem in India" (under the joint auspices of the Indian council of world affairs and the Council of economic education, Bombay) that though the food problem had been referred to as a "Crisis" he felt that it was not so. It was a malady. The problem had been there for a long time, but it came to the surface with the rise of prices in recent years.

India's food position was quite good till the outbreak of the world war II. It was only during the Second world war period when food imports were virtually stopped that serious weakness of Indian agriculture was revealed. The situation further deteriorated rapidly in 1943 when 3·5 million people died of starvation. The termination of war brought about political changes in India of a far reaching character. The partition of the country on August 1947 further deteriorated India's food deficit, because the rich food surplus areas of west Punjab and Sind were included in Pakistan.

It was felt by the people and the planners before the First Five Year Plan was launched that unless food production kept pace with the expansion of economic enterpsise in other sectors and the growth of population, disturbances in food markets might wreck the plan. An attempt was therefore made under the First Five Year Plan to so organise agricultural development as would not only provide for unforeseen losses caused by drought and floods but also maintain an increasing production trend. Therefore, in the first Five Year Plan agricultural production received the highest priority.

However, there has been a considerable increase in the value and volume of imports of food grains from abroad. From the pre-plan year of 1950-51 to the year 1954-55, we imported food grains to the tune of Rs. 120 crores in value on an average per year. The value of imports of food grains in recent years has been as follows :—

Year.	Value of import of Food grains.
1953-54	72.00 crores.
1954-55	68.00 crores.
1955-56	17.69 crores.

A record harvest of 73.5 million tons of food grains in 1959 gave a look of recovery if not distinct progress of India's agriculture front. The total food grain production index rose from 108 to 128.2 and the general index of agricultural production from 114.6 to 131. Be that as it may, Indian agriculture continues to be in doldrums and Prof. Rene Dumont writing under the caption 'India's Agricultural Defeat' in the 'New Statesman' of Dec. 19, 1959 observes' "As a result of the failure to exploit the resources of rural man power to the full, to give production priority over luxury and to provide all classes with a direct motive to invest Indian agricultural production is even failing to keep up with the growth of the population." One may find the statement utterly harsh and yet it contains truth. The prices of food articles went up and wholesale price index of food articles stood at 117.3 on Dec 19, 1959 as against 113.0 on December 20, 1958. Retail levels which are related to the common man were however still higher.

According to the report prepared by an American team of agricultural specialists brought to India at the request of the Ministry of Food and Agriculture and Ministry of Community Development and Coporation, points out that without enough food, India's hope for improving human welfare, achieving social justice and securing democracy will become almost impossible of attainment.

The report submitted by the U. N. mission on community development in India recently while referring to food production says. Above all the community development programme in India, "must put priority during the forthcoming years in increasing agricultural production." The situation seems to be more serious than realised a few years ago and the mission joins the chorus of concern expressed by teams both national and international which investigated the problem in India recently. Against this overshadowing danger of starvation all forces in India must be marshalled. The magnitude and seriousness of the food problem required above all that the people of India must put the solution of this problem ahead of other objectives and make a supreme effort to secure India's future.

Dr. J. J. Anjaria, Economic Adviser to to the Government of India is of opinion that the Third Plan should be so conceived and administered that it can function in a elevate of price stability. Speaking at the annual session of the Federation of Indian Chamber of Commerce and Industry in New Delhi, he said that the plan should lay sufficient emphasis on the output of consumer goods, "mainly food, a crucial element in consumption" 'If the plan was fundamentally imbalanced' it was very difficult to correct it and to ensure price stability by state trading or various other regulatory measures. Dr. Anjaria said "We should be careful so as to phase the plan that there is no great imbalance between the performances of the industrial sector and that of the agricultural sector. This is one of the very big lessons of the second five year plan. If the production of food and industrial raw materials did not go up, control of inflation would be difficult and equally difficult would be the reduction in imports or the promotion of exports".

What stands in our way is not so much the insufficiency of resources as the lack of an effective instrument for implementation and the inadequacy of the channels through which the impulses for planned development had to flow. In the next phase of planning our emphasis should be an operational efficiency and organisational improvement.

The faulty food habits also hamper India's progress. Shree S. K. Patil, Union Food and Agriculture Minister, recently said that the food habits of India were such that people thought that by eating more of rice or wheat they were getting the necessary nourishment. If they changed their habits and balanced their diet with dairy products, vegetable and fruits, they would not only be getting real and nourishing food but there would be sufficient food grains to export after meeting the national needs.

Although it is asserted that the pace of food production in the blocks has been by no means slow, it is recognised that the deficiencies must be removed to cope up with the larger tasks of the next plan.

A major weakness is the lack of co-ordination between representatives of different departments at the district and field levels. The calibre of extension workers need to be improved. Also the system of distribution of supply and services has not improved while the development and utilization of manurial resources has not been adequate.

In a critical assessment, the Community Development and Co-operation Ministry has proposed that Panchayats and Panchayat Samities should work out comprehensive land development schemes based on the employed and under employed labour force.

It is admitted that despite the orientation of the training programme to suit current requirements officials are not yet fully equipped to cope with field problems. There are not enough incentives to workers in the form of promotion or recognition.

Our first concern should be improvement of agriculture. Up till now we have been thinking of agriculture as an important acitivity but last few years' experience of planning has shown that it is not only an important activity but a basic activity. Unless this base is strengthened we can never expect the superstructure to be strong. Let us give Food Top priority and make our Nation free from want of elementary things like food.

GETTING INFORMATION TO FARM FAMILIES IN THE DEVELOPMENT PROGRAMME

By : RAMESHCHANDRA SINHA

I would say. that if village perishes, India will perish too, India will be no more India.

(M. K. Gandhi)

NO nation can prosper if the villages of its land are neglected. The strength of it depends fundmentally on the soundness of its rural structure and economy. The village is the basic factor and it is in the village, however small, that we must lay the foundation of a strong nation. If democracy is to mean any thing substantial, it has to have its roots in the village.

Thus the work of rural development is of vital importance for the country like India, where the pressure is on the land. Land has to maintain the life of the millions more than it can and a lot remain on it, not because they are needed but because there are no other occupations. There are multitudes of owners, tenants and agricultural labourers working on small and fragmented holdings and following traditional old methods and practices that were used by their forefathers which are now out-of-date.

Modern agricultural science is producing knowledge at an amazing rate. Farm families must receive and use this knowledge if they are to produce food and fibre abundantly and efficiently. Thus the problem to day is how to make changes in the agricultural practices in a relatively short period of time. One way is through an active programme of extension education. Extension depends on a sound programme to meet the needs of the village or farm people. Extension is a voluntary adoption of improved practices to supply the need, something the farm family wants.

The first job of extension worker is to let the farmers know that there are better ways of living and there are ways to increase food production which have been tested or proven by research and are reliable. The extension worker is, therefore, a 'bridge' – the 'high-way' the link between scientist and farmer.

The job of extension is more important now-a-days than it has been ever before. Every farm family today must produce food and clothing for itself and for a few other families in the urban areas. Because Agriculture is India's principal industry the production processes must be speeded up. To become more efficient in production, farm families must have a continuous flow of information to help them to do a better job. To be successful he must have the latest available farming information. He must have that information as quickly as he can get it, put up in a form that he can understand.

If we are to do the best possible job of getting information across, we must take a little while to learn just what is involved in communicating with the villagers, especially cultivators. The job of communication is not always an easy one. Some do it better than others. Extension worker can do a better job than an average man may do.

There are three ways of communication of getting information to the farm families. We can speak the information, we can write the information and we can visualize the information to farm families. We can also divide the audience

into three groups for convenience for disseminating the scientific information.

(1) A single person
(2) A selected audience
(3) An unselected audience.

For getting the complete communication picture in a proper line we can discuss it in the three methods of communication to reach the three different audiences.

(A) **Communication by speaking.**

This is the simplest kind of communication which takes place when two persons sit down to talk or many people meet together to discuss some thing. In this case, communication is merely the transfer of "some thing" from the mind of one person to the mind of another.

Person to person approach.

A cultivator stops at the office of the Agricultural Officer or the Block Development Officer for asking about fertilizers for cotton, wheat etc. and about the new varieties evolved by the Agriculture Department, which are recommended for his locality. In that case the Agricultural extension officer can communicate the information by the simplest and perhaps the most effective way. Extension worker can stop at a farm for a visit also, can meet the farmer on the street and talk about the information. If he has the time and energy to talk with every farmer in a village, about every problem the job of communication would have been very easy. But he cannot do that so he uses another method.

The Selected audience

We know that more than one farmer has the same problem or would like to ask the same question. We also know that we cannot talk personally with all of them, so we call a meeting or go to the place where the farmers generally sit together for passing their leisure time, for example, Panchayat Ghar or Community Centre. There we ask all the farmers who have questions about fertilizing cotton, wheat etc. and about the new variety evolved, and we talk to them in a group. We are still talking, still using the same verbal method of communication but we have increased the size of our audience.

In this method we can reach more people than we can with the person to person approach. The big disadvantage, of course, is that we cannot be sure that all the farmers who want or need the information will attend the meeting. This method requires effort on the part of the people we are trying to reach with the information.

The unselected or mass audience.

If we want to reach people by verbal means but cannot get all the people to come to our meetings then we turn to the mass medium of approach. And it is radio. Radio gives us the opportunity to "speak" to a great many people at the sametime. It could be used for debates on selected problems, dessemination of information through talks, dialogues, folk songs, dramas etc. It requires no effort on the part of our audience, except that they must turn on their radios and listen.

There are a number of disadvantages. The first and foremost is that, Indian cultivator is so poor that he does not afford to keep a radio at his residence. But now-a-days many villages are having one radio set arranged by the Block authority in the Panchayat-ghar or a Community Centre. Still they may not listen the programme very closely, if they do turn them on, and there is no chance for them to ask questions if they do not understand the radio programme, or what we are trying to say with the help of radio.

(B) Communication by writing

Just as we furnish information to the farm-families by means of speaking, similarly they can be well instructed by means of writing and we can systematize our data harmonising well with the three different audience groups.

Person to person :—

Every time we answer the letter of the farmer about his enquiry, drop a post card or send a memorandum to a friend. Here we have a prompt and direct approach from person to person communicating our thoughts by writing a letter. It is a good technique. If a farmer has written and asked the extension officer about the soil conservation plan, he can give specific information or instructions, if he knows the condition and the type of land the farmer owns.

As it is almost an impossible task to write letters to all those who need information on farming, it becomes necessary to use a different method.

The selected audience.

If we know that the problem of soil erosion is common, in the particular extension block, at that time we can easily write one letter, have it printed or cyclostyled, and send a copy to each of them. We are still communicating by writing, but we are using the group approach.

This is an effective way of presenting information, but under Indian conditions, it has rather, obvious disadvantages. It is of little use where illiteracy predominates. These letters can also lose significance if not carefully prepared and used. This method also takes a lot of time and is fairly expensive.

The Unselected or Mass audience.

The third method of reaching people with written information is to use the local news-paper. By sitting down and writing a news story on a soil conservation programme in all the news-papers, we are reaching a maximum number of people. By this method we can also acquaint the public simultaneously with the programmes, activities and progress of the extension block.

There are certain disadvantages. Every farmfamily in the area we serve may not read the newspaper as most of them are illiterate. We would not be able to write also as much in a news story as we might in a personal letter or in a circular letter.

(C) Communication by Visual Methods.

Usually, visual means of communication are used along with the two other methods-writing or speaking. When we write a circular letter or a bulletin, we use pictures, sketches or diagrams for helping in creating the interest in the readers. When we give a talk at a meeting, we may have charts, posters or exhibits to help us tell our story. In this way an effective teacher holds the attention of his audience at all times and keeps them interested in his message. An extension worker must be a good 'Show-man' because his people come voluntarily. If they lose their interest they will not come next time. Still let us examine the ways where visual methods can be used alone-or almost alone.

Person to Person.

Photographs, charts, graphs on the office walls of the extension officer or the photo album on his desk can give a lot of information to the farmer who visits the office. Also extension worker can take the pictures, album, series of diagrams or sketches with him on his farm family visit. The situation for teaching here, is personal and with a few exceptions the aids used are the most effective visuals.

The selected audienee in groups.

When we show those pictures or sketches as slide at our group meetings, the

technique is the same but the number of people reached is larger.

Posters and exhibits are also visual means of communication with a group audience, in some way or the other. In this case the group is not selected as in a meeting. With the help of these aids we normally take our message where our audience is.

Visuals used in a group make it possible for members to study their problems together and to better understand how these problems can be solved.

The Unslected or Mass audience.

Simple attractive posters put up where large numbers of people gather or pass will call attention to the new practice. Exhibits set up at the market or near the panchayat ghar or community hall in a village will carry the new idea to hundreds of farmers.

Cinema is also a mass medium of instrcution which definitely appeals to the un-educated and as it is a moving picture rural people can understand it very easily. Same is the case with 'Lanterns' and 'Slides'. So in mass instruction, they are of great value.

Use all methods to reach farm families effectively.

The extension worker can have the opportunity to use all nine methods of communication writing, speaking or visualizing for individual, group or mass audience. He may talk to people in his office. He will hold meetings, demonstrations or tours. There will be letters to answer and memoranda to write.

The combination of all these methods must give the best possible results because multi-exposure of a subject always results in more learning. Also the effect of different extension methods is different in appealing to different senses of learning and results in better understanding and grasping of the subject.

SCHOOLS OF A NEW TYPE IN RURAL CHINA

By: CHI YEN-LANG

IN a remote village of Kiangyin Country on the lower reaches of the Yangtse River in Kiangsu Province some 300 primary school graduates are attending classes in a renovated old temple in the mornings. For their Chinese class they read stories about peasants who have blazed new trials in farming. In mathematics they are working out graphs of unit area yields and calculating the amounts of fertilizer needed for various areas of land. In their technical courses they are studying the reasons for deep ploughing, liberal application of fertiliser and the growth cycle of plants.

The school looks more like a farm in the afternoons. All the students and teachers work on the 15 hectares of land assigned to them by the local people's commune. What they have learned in class they put into practice in the fields. Seven experienced peasants and technicians from the commune sit as their advisers. The students also master various side occupations and handicrafts. Some are raising pigs and chickens, growing vegetables, making reed mats and breeding fish. A few are building dormitories for themselves. The result is that they have become self-supporting through their productive labour.

This is how the Likang Agricultural Middle School, one of the first schools of this kind set up in China in 1958 operates. Today there are more than 20,000 such schools throughout China with an enrolment of some 2 million students.

These schools grew out of the needs of China's prospering countryside. By 1958 the enrolment in primary schools in China jumped to 86 million, which constituted 85% of the school-age children in China. Yet the capacity of ordinary middle schools, even though greatly expanded, was only some 8 million. At the same time, there was an everincreasing demand in China's vast countryside for technical personnel and people with a secondary school education. The agricultural middle schools run by the people's communes came into being in these circumstances.

When the Communist Party Committee of Kiangsu Province, home of agricultural middle schools, met to evaluate its experience in March of 1958, Lu Ting-yi alternate member of the Political Bureau of the Central Committee of the Communist Party of China, took part in the discussions and helped work out the policy for its future development. "China will need this sort of school for a long time to come", he stated later.

The peasants welcomed the schools from the very start because they enabled the older children to work and study without adding any financial burden on their families. As the schools are located near their homes, the children need not go away to cities and towns to study.

Generally all the costs involved in setting up these schools are provided by the people's communes in the countries, with the students paying only a small sum towards their tuition until the schools become self-supporting.

When an agricultural middle school was established in a country near Shanghai, the local people's commune, apart from providing the school with all the houses, farm tools and over one hectare of land, contributed 16 pigs and a draught ox.

The teaching staff includes local party leaders, peasants who have a middle school education, government employees from the cities now living and working in the rural areas and officials of the local agro-technical stations.

The three-year course comprises general as well as technical studies. The general courses follow the basic courses given in the ordinary middle schools, including political education, Chinese, mathematics, physics and chemistry. The technical courses aim at training junior agro-technicians. As China's economy advances, courses in agricultural mechanization and electrification and rural industry are gradually being added.

Different regions place emphasis on different technical courses. In Kiangsu and Chekiang provinces which produce most of China's silk, sericulture is an important course. In the lake and river regions fishery is studied. In inner Mongolia and Northwest China animal husbandry and veterinary science are stressed.

In general the school devotes 6 months of the year to study, 5 months to farming and one month to vacation.

The Chinese people have happily described the agricultural middle schools as a second leg supporting the secondary school education in China, the first leg being the ordinary full-time middle schools.

These schools mean much more than a rapid development of education. The harmonious combination of mental and manual labour, of education and production, for hundreds of years only a lofty aim, is being realised among the younger ganeration in rural China.

"LAND UTILISATION AND MANAGEMENT IN RELATION TO AGRICULTURAL PLANNING"

By : A. N. RAJAMANI

(*Continued from page 168*)

But perhaps the greatest trouble for soil conservation arises from small farmers. The length of tenure or expectancy of both tenants and land owners retards investment in conservation measures, particularly those which will not pay off in full in short time. A study of land reforms will be useful at this point.

Desire for current income is another obstacle : it is a problem whether to spend, save or invest. Uncertain prices and weather will be felt acute by farmers who are heavily in debt. Again, the level of conservation desirable for the community may differ from the most profitable level for the individual.

Saving the soil is not the only reason for promoting conservation. It is necessary to stabilise income and provide a higher level of living for the farm family. Erosion control, use of fertilisers and rotations for higher production, and complementary enterprises will all serve to increase and widen the welfare of the farm community. Soil conservation must be conceived as a broad scheme involving a cultural balance using all the tools of science and engineering for efficient production on a sustained basis.

In this matter, the individual land user should and does have the primary responsibility. But there are some reasons for national responsibility also : (i) the various parts of the economy in India have become inter-dependent on a national basis. Farm families have now a very low self-sufficiency and efficiency. (ii) many facets of the conservation problem extend over wide areas. Neither rivers nor the boundaries among kinds of soil coincide with the State boundaries or lines. And (iii) the accumulations of taxable wealth and income although arising from throughout the country, are concentrated in a relatively few hands. Thus a substantial part of the funds for soil conservation work can be collected adequately only through national taxation programmes. Therefore, the national responsibility and the individual responsibility go together.

Land Management

(a) Land use in effect means efficient management of land by the individual farmers in the context of the interests of the economy as a whole. The cultivators must be obliged to maintain a reasonable standard of production and to preserve and develop the soil fertility. To achieve this, land management legislation may be resorted to, on a national basis, prescribing standards of efficiency, and at the same time creating the environment thereof in the form of land reforms wherever required.

(b) The criteria for evaluating the efficiently managed farms will depend on: (i) levelling, bunding, reclamation etc. of land ; (ii) use of improved seeds; (iii) proper manuring with farm or chemical manures; (iv) proper irrigation and maintenance of canals; (v) use of improved agricultural implements; (vi) steps taken to control pests and diseases; (vii) adoption of new cultivation techniques in, say, preparing seed-beds, harvesting etc. (viii) suitable rotation of crops; (ix) planting and care of trees along water courses, wells etc. (x) dry farming where necessary

through shallow ploughing, conservation of moisture by ploughing immediately after rains etc. (xi) adoption of mixed farming industries allied to agriculture like fruit and vegetable gardening, dairy farming, poultry or beekeeping etc. (xii) animal husbandry; (xiii) farming equipment and investment in permanent improvements; (xiv) storage facilities for produce; (xv) farm account maintenance etc.

(c) These land management legislations should be implemented through some suitable machinery such as village panchayats.

At any rate, such measures cannot be rigid and must be adjustable to local conditions.

Agricultural Planning

Thus agricultural planning involves four steps: (i) establishment of policy objectives or ends sought; (ii) determination of current situations with respect to these objectives; (iii) determining the gap between the present situation and the desired objectives. These require the planners imagination and ingenuity and a keen sense of the institutional framework within which the suggested programmes for agricultural development must operate. The government—local, state or central—may bring about the desired change in land utilisation and management by: (i) direct administration of land through public ownership; (ii) public regulation of privately held land; (iii) taxation on yields; and (iv) regulation induced by or incident to conservation payments and aids, and education activities and programmes.

In conclusion, while the short-term objective of land utilisation should be the elimination of the shortages in the economy, the long-term objective should be, maximum production on minimum land space. The crux of the problem of land utilisation and management in relation to agricultural planning being the everchanging needs of society, the principles governing such planning must be essentially flexible in character and approach.

NOTE TO READERS

The Editor is busy out of Bombay in Madhya Pradesh in re-orientation of Adarsh Vidyalaya (Inter College), Agriculture farm etc; hence the delay in May & June issue of Rural India. July issue will be published in August 1960. We hope, our sympathetic readers will condone the delay.

Manager Rural India.

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